

## **The first record of *Halodromus patellidens* (Levy, 1977) (Araneae: Philodromidae) in Egypt**

Hisham K. El-Hennawy<sup>1\*</sup>, Doaa M. Medany<sup>2</sup>, Gamal M. Orabi<sup>3, 4</sup>,  
Fayez M. Semida<sup>3</sup> & Mahmoud Saleh Abdel-Dayem<sup>5, 6</sup>

<sup>1</sup> Arachnid Collection of Egypt, 41 El-Manteqa El-Rabia St., Heliopolis, Cairo 11341, Egypt

<sup>2</sup> Biotechnology research Center, Suez Canal University, Ismailia 41522, Egypt

<sup>3</sup> Zoology Department, Faculty of Science, Suez Canal University, Ismailia, Egypt

<sup>4</sup> Zoology Department, College of Science, King Saud University, Riyadh 11451, Saudi Arabia

<sup>5</sup> Entomology Department, Faculty of Science, Cairo University, Egypt

<sup>6</sup> Plant Protection Department, College of Food and Agricultural Sciences, King Saud University, Riyadh 11451, Saudi Arabia

\* Corresponding e-mail address: [el\\_hennawy@hotmail.com](mailto:el_hennawy@hotmail.com)

### **Abstract**

*Halodromus patellidens* (Levy, 1977) of family Philodromidae is recorded from Ismailia, Egypt for the first time.

**Keywords:** Spiders, Philodromidae, *Halodromus patellidens*, Ismailia, Egypt.

### **Introduction**

Three years ago, Muster (2009) established the new genus *Halodromus* to include two Old World species of the *Ebo*-like philodromid spiders with a long patellar apophysis on the male palp (*H. patellaris* (Wunderlich, 1987) and *H. patellidens* (Levy, 1977) [Type species], both transferred from *Ebo* Keyserling, 1884), and described three new species from both sexes, *Halodromus barbarae* from Egypt (Aswan), Israel, Saudi Arabia and Spain, *H. deltshevi* from Yemen, and *H. gershomi* from Eritrea. The name *Halodromus* refers to the habit of hiding in salt tolerant dwarf shrubs and the relationship to some *Philodromus* (*Rhysodromus*) species. *Halodromus* is presumably an Afro-Syrian element with wide distribution in the Eremial of northern Africa and the Middle East (Muster, 2009).

In addition to these five species, Logunov (2011) described *Halodromus vanharteni* as new species, from only the male, from United Arab Emirates. He recorded both *H. barbarae* and *H. patellidens* from U.A.E. too.

Until now, the small genus *Halodromus* Muster, 2009 of Family Philodromidae Thorell, 1870 includes six species from northern Africa and the Middle East (Muster, 2009; Platnick, 2012) as follows:

<i>Halodromus barbarae</i> Muster, 2009	Canary Is., Spain, Egypt, Israel, U.A.E., Saudi Arabia
<i>Halodromus deltshevi</i> Muster, 2009	Yemen
<i>Halodromus gershomi</i> Muster, 2009	Eritrea
<i>Halodromus patellaris</i> (Wunderlich, 1987)	Cape Verde Is., Canary Is., Tunisia, Israel
<i>Halodromus patellidens</i> (Levy, 1977)	Cape Verde Is., Algeria, Tunisia, Israel, Kuwait, U.A.E., Saudi Arabia, Yemen
<i>Halodromus vanharteni</i> Logunov, 2011	U.A.E.



Fig. 1. *Halodromus patellidens* (Levy, 1977) collecting site near the sewage treatment station of Ismailia, Egypt.

Genus *Halodromus* is mainly diagnosed by:

1. The presence of pro- and retrolateral spines on tibiae and metatarsi of legs (unlike *Ebo*),
2. Leg II strongly elongated, more than 1.4 times longer than leg I (Fig. 3),
3. Male palp with patellar apophysis and philodromid tegular apophysis (Muster, 2009).

In Egypt, only *Halodromus barbarae* Muster, 2009 was recorded. There is only one female specimen of this species collected from Aswan on 22 June 1975 and

deposited in Muséum d'Histoire Naturelle, Genève (MNHG) as one of the paratypes of *H. barbarae* (Muster, 2009).

Among 3324 spiders of 26 families, collected by pitfall trapping from Serabium Forest and the open desert near the sewage treatment station of Ismailia during February, May, August and November 2010, only 2♂ specimens of *Halodromus* were found. They were found among 43 spider specimens, 3 pseudoscorpions, and several insects fallen in two pitfall traps. The collected spiders in both traps belong to 9 families, the majority of them belong to family Gnaphosidae (17 spiders), then Philodromidae (9, including 6 *Philodromus* sp., 1 *Thanatus* sp., in addition to the 2♂ *H. patellidens*), and Salticidae (6). Other spiders belong to families Lycosidae (3), Dictynidae (2), Oxyopidae (2), Pholcidae (2), Araneidae (1), and Liocranidae (1).

The two males were identified as *Halodromus patellidens* (Levy, 1977). It is a new record in Egypt. This species can be differentiated from *H. barbarae* by:

- Patellar apophysis longer than tibia of male palp, philodromid tegular apophysis laminate, projecting beyond retrolateral margin of tibia ..... *H. patellidens*
- PatApo barely half as long as tibia of male palp, PTA hooked, not projecting beyond retrolateral margin of tibia. Embolus foxtail-shaped ..... *H. barbarae*

The locality where the two males *H. patellidens* were collected is from the open desert of Serabium region near the sewage treatment station of Ismailia (30°29'27"N, 32°14'29"E, elevation 10m) (Fig. 1). It is about 12 km from Ismailia city. Only 40% of the land is covered by wild vegetation, almost of *Zygophyllum album* and *Phragmites australis*.

Abbreviations used: ALE = anterior lateral eye; AME = anterior median eye; AM-AM = inter-distance between anterior median eyes; CL = cephalothorax length; ClyH = clypeus height; CW = cephalothorax width; CyL = cymbium length; L = length; PatApo = patellar apophysis of male palp; PLE = posterior lateral eye; PME = posterior median eye; PTA = philodromid tegular apophysis; RTA = retrolateral tibial apophysis; TL = total length. All measurements were taken in millimetres.

### *Halodromus patellidens* (Levy, 1977)

(Figs. 2-6, Table 1)

*Ebo patellidens* Levy, 1977: 210-212, figs. 36-39 (♂♀).

*Ebo patellidens* Wunderlich, 1992: 504, f. 808f-g [after Levy, 1977] (♂).

*Halodromus patellidens* Muster, 2009: 66-69, figs. 13, 33-37 (♂♀).

**Material examined:** 2♂, Egypt, Ismailia governorate, Ismailia (30°29'27"N, 32°14'29"E, elevation 10m). Coll. Doaa M. Medany, 16-22 February 2010.

**Description: Male** (Figs. 2-6): TL 2.97, CL 1.54, CW 1.54, ClyH 0.21. [Another male: TL 2.70, CL 1.11].

Carapace light brown, with sparse thick setae; cephalic part ends by white crescent shape sign with white longitudinal stripes extending forwards until the ocular area; both sides of thoracic part with blackish patches (Figs. 2-3).

Eye sizes and interdistances: AME 0.11, ALE 0.08, PME 0.08, PLE 0.08, AME–AME 0.13, AME–ALE 0.08, PME–PME 0.24, PME–PLE 0.13, ALE–PME 0.08.

Legs and pedipalps yellowish-brown, mottled with blackish patches; leg formula II-I-IV-III (Table 1); spines few on femora, none on patellae and tarsi, numerous on tibiae and metatarsi. Spination of legs I-IV: femur dorsal 0-1-1, prolateral 0-1-1; tibia ventral 2-2-0, pro- & retrolateral 0-1-1, dorsal 0-0-1; metatarsus ventral 2-2-0, pro- & retrolateral 1-1-1.

Table 1: Legs and pedipalp measurements (mm).

Leg	I	II	III	IV	Palp
Femur	1.80	2.70	1.85	1.85	0.58
Patella	0.69	0.95	0.64	0.69	0.21
Tibia	1.70	2.60	1.43	1.43	0.32
Metatarsus	1.16	2.13	1.22	1.22	---
Tarsus	0.69	1.11	0.69	0.64	0.72
Total length	6.04	9.49	5.83	5.83	1.83

Morphometric indices:

AME size index = diameter AME/CW: 0.07.

PME interdistance index = PME-PME/PME-PLE: 1.85.

Clypeus height index = ClyH/CW: 0.14.

LegII length index = length femur II/femur I: 1.5.



Figs. 2-6: *Halodromus patellidens* (Levy, 1977) ♂. 2. Cephalothorax, dorsal view. 3. Habitus, dorsal view, left side, showing the strongly elongated leg II. 4. Abdomen, dorsal view. 5-6. Palp (left). 5. ventral view. 6. retrolateral view.

**Pedipalp** (Figs. 5-6): PatApo 0.48, CyL 0.72. Males are characterized by the exceptionally large patellar apophysis and by the large PTA that projects beyond the retrolateral margin of the cymbium (Muster, 2009). Tibia with almost rectangular processing RTA with rounded tip. Cymbial tip relatively short, less than one fourth of CyL. CyL/CW 0.47. Anterior border of tegulum indistinct, PTA large, laminar, projecting beyond retrolateral margin of cymbium, its tip pointing in ventral direction. Sperm duct forming an elongate, asymmetric loop in retrolateral half of tegulum, opening in 8 o'clock position (Muster, 2009).

**Abdomen:** L 1.64; grey, densely covered by whitish grey pubescence with sparse dark brown setae; with a conspicuous mid-dorsal dark cardiac mark on anterior part, between two white areas (Fig. 4).

**Habitat.** This species was collected from sandy area of Serabium desert region where *Zygophyllum album* is covering 40% of the site.

## References

- Levy, G. 1977. The philodromid spiders of Israel (Araneae: Philodromidae). *Israel J. Zool.*, 26: 193-229.
- Logunov, D.V. 2011. Notes on the Philodromidae (Araneae) of the United Arab Emirates. *Proc. zool. Inst. Russ. Acad. Sci.*, 315: 441-451.
- Muster, C. 2009. The *Ebo*-like running crab spiders in the Old World (Araneae, Philodromidae). *ZooKeys*, 16: 47-73.
- Platnick, N.I. 2012. *The world spider catalog*, version 13.0. American Museum of Natural History, online at <http://research.amnh.org/iz/spiders/catalog>. DOI: 10.5531/db.iz.0001.
- Wunderlich, J. 1992. Die Spinnen-Fauna der Makaronesischen Inseln: Taxonomie, Ökologie, Biogeographie und Evolution. *Beitr. Araneol.*, 1: 1-619.